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The Determinants of Leverage of Sri Lankan Manufacturing Companies Listed on Colombo Stock Exchange

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ABSTRACT

This study develops a preliminary study to explore the determinants of leverage of Sri Lankan manufacturing companies listed on Colombo stock exchange. Leverage level of the firm determined by several factors. Proper leverage leads to the firm to achieve the better performance and ensures the sustainability in its operation. Even though there are several factors contribute to the institutional performance, determinants of the leverage play an important role. Therefore it is necessary to identify that what are the factors contribute to the firms' leverage composition in its operation. Hence the present study was undertaken with the objective of finding out the relationship between factors determinants leverage level of the listed manufacturing companies in Sri Lanka. using the firm level panel data for the period of 2008 – 2012 sample consists of thirty one manufacturing companies. This study employs correlation analysis and multiple regression analysis to measure relationship among variables, individual and overall impact on leverage and to test the operational hypotheses. The result this study Profitability and Non debt tax shield were confirmed to be relevant determinant for Sri Lankan manufacturing companies, except Tangibility. It is largely consistent with the past empirical finding also.

Keywords: Leverage, Profitability, Non Debt Tax Shield, Tangibility

INTRODUCTION

The term leverage is used to represent the proportionate relationship between debt and equity (Pandey 2010). The concept used to study the effect of various mix of debt and equity on the shareholders return and the risk in the capital structure of a firm is known as leverage (BhanuVasishtha, 2011) Leverage is an investment strategy of using borrowed money to generate outsized investment returns. Leverage as a business term refers to debt or to the borrowing of funds to finance the purchase of company's assets. Business owner can use either debt or equity to finance or buy the company's assets. In finance the leverage is the most debatable topic and continues to keep researchers pondering. Leverage refers to the mix of debt and equity used by firm financing its assets.

It is clear that leverage is an important management decision as it greatly influences the owner's equity returns, the owner's risks as well as the market value of the shares. In other word, how a firm is financed is very important not just go to the managers of the firm but also to fund providers. This is because if a wrong mix of finance is employed, the performance and survival of the business enterprise may be seriously affected. However, firms financing decision involve a wide range of policy issue which may be outside the direct control of the firm's management. Company determines an appropriate leverage level which will ensure that business continues as a going concern.

At the time a firm faces a financial deficit that affects its financial condition; the manager of the firm should be able to make a managerial decision as well as a financial decision in order to maintain the viability of the firm. One way that can be chosen is to undertake a capital restructuring, especially debt restructuring. The decision taken on debt restructuring, of course, requires expertise and analytic capabilities so managers can make the right decisions of financial restructuring for the company. An ideal composition of capital structure which consists of debt and equity will minimize the cost of capital and maximize the firm's value. Therefore, it is important for the firm's manager to understand the theory of capital structure.

The sources of funds include retained earnings, debt, and equity. Retained earning is the cheapest fund for the funding source as it does not have explicit costs in the same way as funds obtained from outside sources. When the company uses debt to finance investments which has an impact on costs

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rising in its capital structure, the company will have a financial risk, because the company must consider their priority in the structure of debt, debt maturity, decision of mixed debt to certain parties or to the investor, and other types of debt contracts.

The manufacturing sector of any economy is involved in conversion of raw materials into finished consumer goods or intermediate good. Like other industrial activity manufacturing creates revenues for employment, helps to boost agriculture, helps to diversify the economy and serves as a viable means of foreign exchange earnings for the country. In addition this sector also helps to minimize the risk of overdependence on foreign trade or imported goods .manufacturing remains one of the most powerful engines for economic growth. Manufacturing becomes the main means for developing countries to benefit from globalization and bridge the income gap with the industrialized world. These potential benefits justify the importance of promoting manufacturing in the developing countries of which SriLanka is one.

Research Question

What is the factors influence on the leverage in the Sri Lankan manufacturing companies?

Objectives Of The Study

In this research, researcher attempts to find out some aspects of the selected Companies in manufacturing industry.

To evaluate what extend profitability, Non Debt Tax Shield and Tangibility impacts on leverage.

To find out relationship between profitability, Non Debt Tax Shield and Tangibilityon leverage.

Review Of Literature

There are Several important theories about capital structure choice that have been developed Firm's leverage decision can be viewed from the various theories: Modigliani-Miller theory, pecking order theory, trade-off theory, Signaling theory, and Agency cost theory.. The theory of business finance in a modern sense starts with the Modigliani and Miller (1958) capital structure irrelevance proposition. Before them, there was no generally established theory of capital structure. The debate about how and why firms choose their capital structure began in 1958 (Myers, 2001), when Modigliani and Miller (1958) published their famous arbitrage argument showing that „the market value of any firm is independent of its capital structure". Modigliani and Miller start their theory by assuming that the firm has a particular set of expected cash flows. When the firm chooses a certain proportion of debt and equity to finance its assets, what it has to do is to divide up the cash flows among investors. Investors and firms are assumed to have equal access to financial markets, which allows for home made leverage. As a result, the leverage of the firm has no effect on the market value of the firm. Modigliani and Miller's theory influenced the early development of other capital structure theory.

The study carried Nimalathasan, Brabete (2010) relating to "capital structure and its impact on profitability a study of listed manufacturing companies in Sri Lankan". The analysis shows that debt equity ratio positively and strongly associated to all profitability ratios. Sangeetha and Sivathaasan (2013),arque a significant strong and positive relationship between profitability and leverage . Frank and Goyal (2004) experienced a positive relationship between profitability and leverage in some models. Moreover, various studies identified the determinants of profitability Velnampy, (2005and 2013).Buvanendra.(2013) on her study"capital structure determinants evidence from the manufacturing and services sector companies in Sri Lankan" .conclude that manufacturing companies leverage decision is influenced only by the profitability variable.

Al-Qaisi collected data from United Arab Emirates (UAE) and found a 24 Factors that Influence Financial Leverage of Canadian Firms negative relationship between profitability and leverage Shaheen and Malik (2012) in their research with regards to the impact of profitability on "textile sector of Pakistan" found that profitability affect significantly and negatively to the debt financing decision in this sector. Ajanthan(2012) "Determinants of Capital Structure: Evidence from Hotel and Restaurant Companies in Sri Lanka" The results suggest that only profitability is negatively related to the debt ratios .

Sabir and Malik (2010) factors that are significantly affecting the leverage in oil and gas sector of Pakistan. profitability has significant and negative relationship Haque (1989) empirically tested the

Bangladeshi firms and finds that capital structure do significantly vary among industries and it has no significant impact on firm's profitability, dividend and market value

Most empirical studies showed that leverage was negatively related to profitability. Friend and Lang (1988), and Titman and Wessels (1988) obtained such findings from US firms. Kester (1986) found that leverage was negatively related to profitability in both the US and Japan. another studies using international data also confirmed this finding (Rajan and Zingales (1995), and Wald (1999) for developed countries, Wiwattanakantang (1999) and Booth et al. (2001) for developing countries. Long and Maltiz (1985) found leverage to be positively related to profitability, but the relationship was not statistically significant. Wald (1999) even claimed that profitability has the largest single effect on debt/asset ratios. Huang and Song (2002) found that profitability was strongly negatively related with total leverage.

Chang (1999) showed that the optimal contract between the corporate insider and outside investors could be interpreted as a combination of debt and equity, and profitable firms tended to use less debt. Meanwhile, Jensen, Solberg and Zorn (1992) found a positive one.DeAngelo and Masulis (1980) say that non-debt tax shields canbe substitutes for the tax benefits of debt financing and a firm with larger non-debt tax shields is expected to use less debt. Past empirical studies also show mixed results about the relationship of non-debt tax shield and leverage. Gardner and Trcinka (1992) find a positive relationship between non-debt tax shield while Shenoy a Jensen and Meckling (1976) identify two types of conflicts: first, conflicts between shareholders and managers, secondly, conflicts between lenders and shareholders according to the discussion above. Hence, we expect that an increase in non-debt tax shields will affect leverage negatively.

Titman and Wessels (1988) use the ratio of tax credits over total assets and the ratio of depreciation over total assets as measures of non-debt tax shield. In this study, we have only data on depreciation and therefore, the ratio of depreciation over total assets will serve as a measure for non-debt tax shield Koch (1996) find a negative relation.

Tanveer Ashraf, SafdarRasool, " Determinants of Leverage of Automobile Sector Firms Listed in Karachi Stock Exchange by Testing Packing Order Theory" find that Non Debt Tax Shield is insignificant and do not play any role in the determination of leverage in non-financial firms of automobile sector of Pakistan. Shah and Khan (2007) stated that non-debt tax shield have significant and negative relationship with leverage.

Titman and Wessels, 1988; Rajan and Zingales (1995) find a positive relationship between tangibility and leverage, the empirical studies in developing countries find mixed relationship.

Booth et al, (2001) in ten developing countries, and Huang and Song (2002) in China, find that tangibility is negatively related to leverage. It is argued, however, that this relation depends on the type of debt.

Bevan and Danbolt (2000 and 2002) also find a positive relationship between tangibility and long-term debt, whereas a negative relationship is observed for short-term debt and tangibility in the UK.

Laurent Weill, **"**Determinants of Leverage and Access to Credit: Evidence on Western and Eastern Europe countries." Their results show new evidence in favor of the positive influence of tangibility of assets and growth and the negative impact of profitability as expected

This general discussion converges to conclude that there should be positive relationship between leverage and fixed assets. This relationship was empirically confirmed by Rajan and Zingales (1995), Booth et al.(2001) proved a low but a significant relation between total debt and asset tangibility and a slightly significant positive relation between long-term debt and asset tangibility.

Buvanendra (2013) "capital structure determinants evidence from the manufacturing and service sector companies in Sri Lankan". They conclude In manufacturing companies Strangely tangibility which in theory should have great influence on decision pertaining to leverage is found to be insignificant as arrived at in this studyKhalid Alkhatib" The determinants of leverage of listed companies in Jordan". The industrial sector revealed that liquidity and tangibility have significant relationship with leverage.

OwolabiSundayAjao ,Inyang,UduakobongEma,(2012) "Determinants of capital structure in Nigerian firms" Their studies revealed that for non-financial firms such as the manufacturing firms, there is a significant positive relationship between asset structure (tangibility) and long-term debt ratios. Shah and Khan (2007) stated that tangibility has a positive and significant relationship with Leverage. Sabir and Malik (2010) found that factors that significantly affecting the leverage in oil and gas sector of Pakistan. They concluded that tangibility and liquidity have positive and significant relationship with leverage Hijazi and Tariq (2006) in their study conducted on" cement industry of Pakistan" found that tangibility has a significant and positive relationship with leverage.

Conceptualization

Conceptualization is a method of reasoning that attempts to visualize the causality of the research problem prior to undertaking field research it indicates the dependent and independent variable and the relationship among them in the research problem. After the careful study of review of literature the researcher developed the following conceptual model.

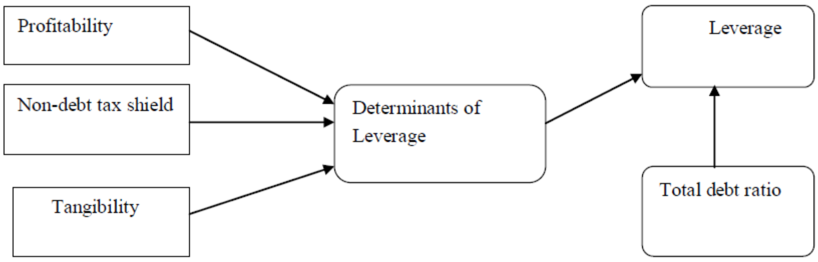


Fig1. *Developed By Researcher*

Hypotheses

The objectives of this study are to assess the factors that are determining the leverage in manufacturing companies in Sri Lanka. Finally hypothesis is examined whether it is acceptable or not. The research hypotheses are

H1: There is significant Impact of profitability on Leverage

H2: There is significant Impact of Non Debt Tax Shield on Leverage

H3: There is significant Impact of Tangibility on Leverage.

H4: There is significant relationship among the variables Profitability, Non Debt Tax Shield and Tangibility and Leverage.

RESEARCH METHODOLOGY

This study analyzes the factors determining leverage of listed manufacturing companies in Colombo Stock Exchange (CSE).

Sampling Technique

The Colombo Stock Exchange (CSE) has 290 companies representing 20 business sectors. This study considers only 31 manufacturing companies out of listed manufacturing companies. Rajan and Zingales (1995) used five year averages. Following Rajan and Zingales, this study used five year averages. Then ecessary data was collected from the annual reports of the selected companies for the financial year ended 2008, 2009, 2010, 2011, and 2012 through the link available in the website of CSE.

Variables in the Study

The important variables used in this study are the Leverage which is considered as dependent factor. Variables such as Profitability, Tangibility, and non-debt tax shield are taken as independent variables.

Operationalisation

Variable	Concept	Indicator	Measurement
Dependent	Leverage	Total debt ratio	Total Debt / Total Asset
Independent	Determinants of Leverage	Profitability	Earnings Before Interest and Tax / Total Asset
		Non-debt tax shield	(EAIT + Depreciation) / average tax rate / Total Assets
		Tangibility	Total Gross Fixed Asset / Total Asset

Mode Of Analysis

Descriptive Statistic

	N	Minimum	Maximum	Mean	Std. Deviation
TDR	31	.06	1.39	.4993	.26560
Profitability	31	-.21	.58	.0525	.12778
Tangibility	31	.02	.94	.4869	.22902
NDTS	31	-.21	.39	.0534	.11101
Valid N (listwise)	31				

The above Table1 indicates that the means for the leverage, profitability, tangibility, and non-debt tax shield are 49.9%, 5.25%,48.6% and 5.3% in respectively. Based on the average 48.9% mean value in tangibility. According to the Table 1 minimum value of the Total Debt Ratio 0.06 and the Maximum Value is 1.39.

Correlation Analysis

Correlation is concerned to describe the strength of relationship between two variables in this study the correlation analysis is to find out the relationship between leverage and the independent factors such as Tangibility, Profitability, Non debt tax shield. It can be said that what relationship exist among variables.

		PRO	TAN	NDTS
TDR	Pearson Correlation	-	.0.8	-
	Sig. (2-tailed)	.403	7	.437
	N	**	.64	**
		.025	2	.014
		31	31	31

The correlation between Total debt ratio with Profitability, Tangibility, Non debt tax shield -.403**, . 087, -.437** respectively. That means, there is negative significant correlation can be observed between Profitability, Non debt tax shield with Total debt ratio, Tangibility is not Significant correlation with Total Debt Ratio.

Regression Analysis

To find out the impact of independent variables on Leverage, The following ordinary least squire (OLS) regression model is used.

Leveragei, t = $\beta 0+ \beta 1PROi,t + \beta 2$ TANi,t + $\beta 3$ NDTX i,t +ε

Where;

PRO = Profitability

TAN = Tangibility

NDTX = Non-Debt Tax Shield

$\beta 0$ = constant variable

$\beta 1$, $\beta 2$, $\beta 3$, - Model coefficients

ε = Error term.

i,t = for firm i in period t

In this study, Regression analysis has been employed to analyze the data collected from the companies listed on CSE. A well known statistical package called "SPSS" (Statistical Package for Social Science) version16 has been used to analyze the data the researcher collected. The upper level of statistical significance for hypotheses testing was set at 5%. All statistical test results were computed at the 2-tailed level of significance.

The purpose of regression analysis is to ind out the impact of independent variables relate a dependent variable. (Mendenhal and Sincich, 1993; Nilufar et al., 2009).Table 02 provides the impact of all independent variables on Total debt ratio. All independent variables of profitability and non debt tax shield explain 40.3 % and 43.7 % impact on Leverage.

Table2

Variables	β	R	R2	Adjusted R2	F value	P-Value
Constant	0.5091		.202	.113	4.45	0.000
Non debt tax shield	-0.9043	0.437	.191	.163	6.864	.014
Tangibility	0.0957	0.087	.008	-.027	.221	.642
Profitability	-0.1526	0.403	.162	.133	5.607	.025

The result of the study shows that the profitability negatively significant impacts on total debt ratio. The beta value of the profitability is -0.1526 and R is 40.3% P value is 0.025. p<0 so H1 is accepted.

This result is consistent with result of Buvanendra. (2013). "Capital structure determinants evidence from the manufacturing and services sector companies in Sri Lankan" The average debt ratio of Srilankan Companies is around 50%. In manufacturing companies leverage decision is influenced only by the profitability variable.

Result of Anandasayanan, Subramaniam, Sireeranhan, and Raveeswaran(2013) "Determinants of Leverage of the Listed Companies in Sri Lanka: An Empirical Study" The results suggest that Profitability to Total Assets is estimated to have negative impact on Leverage , So H1 is accepted.

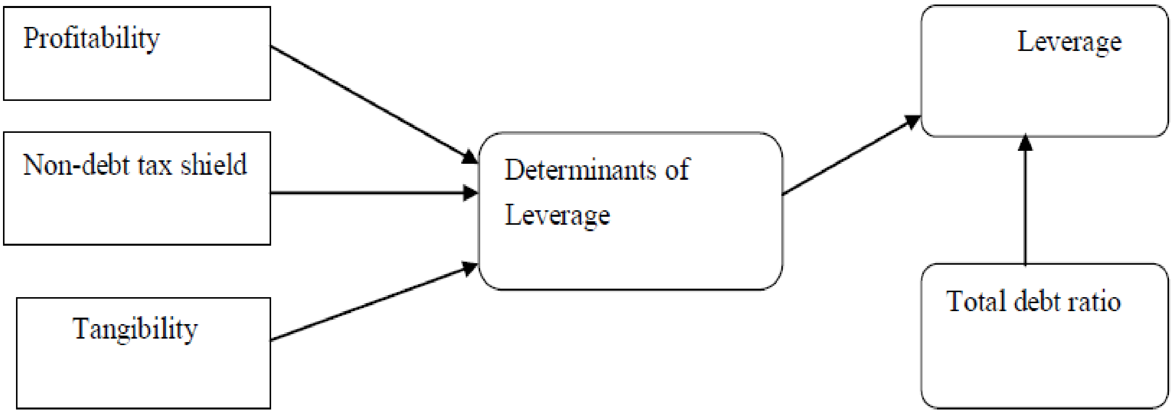
According the above analysis Non debt tax shield negatively significantly impacts on Leverage. The beta value is -0.9043 and R is 43.7%

This result is consistent with result of Shah and Khan (2007) stated that non-debt tax shield have significant and negative relationship with leverage. Ali, Akhtar and Sadaqat (2011) states that factors significantly affect the leverage in non-financial sector of Pakistan. So, H2 is accepted

The result of the analysis tangibility is not significantly impacts on Leverage in Sri Lankan manufacturing companies. The beta value of tangibility 0.0957 and R is 8.7%.

Result is not consistent with result of Pirahalathan.(2012) "The determinants of capital structure an empirical analysis of listed manufacturing companies in Colombo stock exchange market in Sri Lanka" the study found that tangibility has direct relationship with capital structure. So H3 is rejected.

The result of the analysis Profitability and Non Debt Tax Shield are significant negative relationship; Tangibility is not significant relationship between the Leverage. Profitability, Non debt tax shield -.403**, -.437** and Tangibility.087 respectively with the beta value of profitability 0.25, Non Debt Tax Shield 0.14 and Tangibility 0.642.Then H4 is accepted.



CONCLUSION

This paper empirically examined the relationship between the factors determining leverage in listed manufacturing companies in Sri Lanka for the period of 2008-2012 by using correlation analysis and regression analysis. The result this study profitability and Non Debt Tax Shield were confirmed to be relevant determinants for Sri Lankan manufacturing companies. Tangibility was not significant impacts on the determinants of leverage in Sri Lankan Manufacturing companies.

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